

Force Pilot Operated Solenoid Valve NC, DN 10

Product Information



A. u. K. Müller

Solenoid valves
Control valves
Special valves and systems

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Series 31.010.126



Approvals

Approved versions available on request:

KTW - BWGL



- KTW-BWGL
- VDE
- Others on request

Description

2/2-way solenoid valve of nominal diameter DN 10 for use with cold and heated potable water and physically and chemically similar media. The valve is servo-controlled with assisted lift and normally closed (NC).

Valves of this design are single chamber straight valves and can be manufactured with various fluid connectors. As the function is independent from a differential pressure between in- and outlet the valve exhibits a high operational safety.

Coil systems for common voltage and frequency ranges are available.

The electrical operational safety is guaranteed by the electrical insulation coordination, which corresponds to the VDE 110 regulations. The manufacturing process includes a 100% electrical safety test in accordance with the VDE 0631 Part 1000 regulations.

By using high quality insulation materials, continuous duty (100 % ED) at higher medium temperatures is possible. The glass fibre reinforced polyamide valve body resists hot water. Protection against corrosion of inner parts exposed to the medium is achieved by using stainless steel.

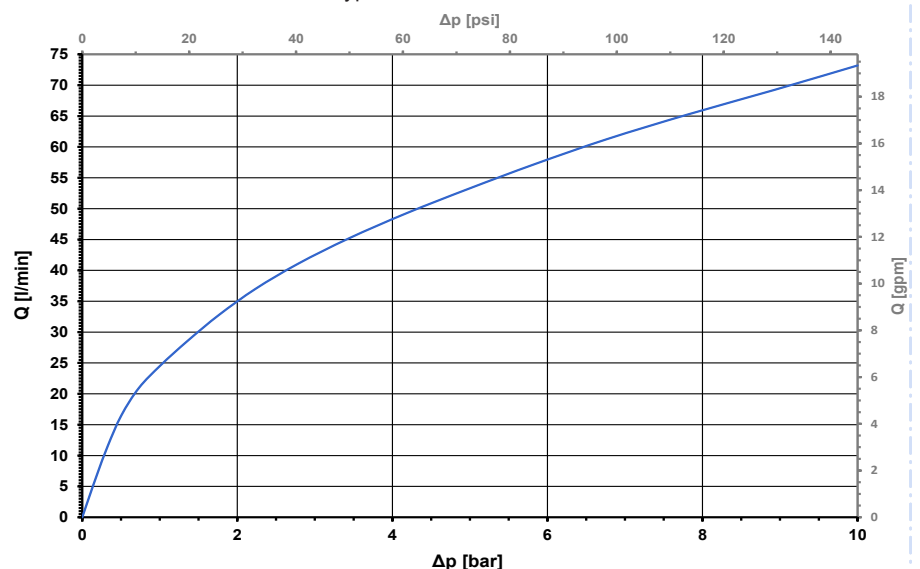
Applications

- Industrial equipment
- Pollution equipment
- Temperature equalisers
- Dish washers
- Washing machines
- Water treatment
- Cooling and water circuits
- Tank discharge

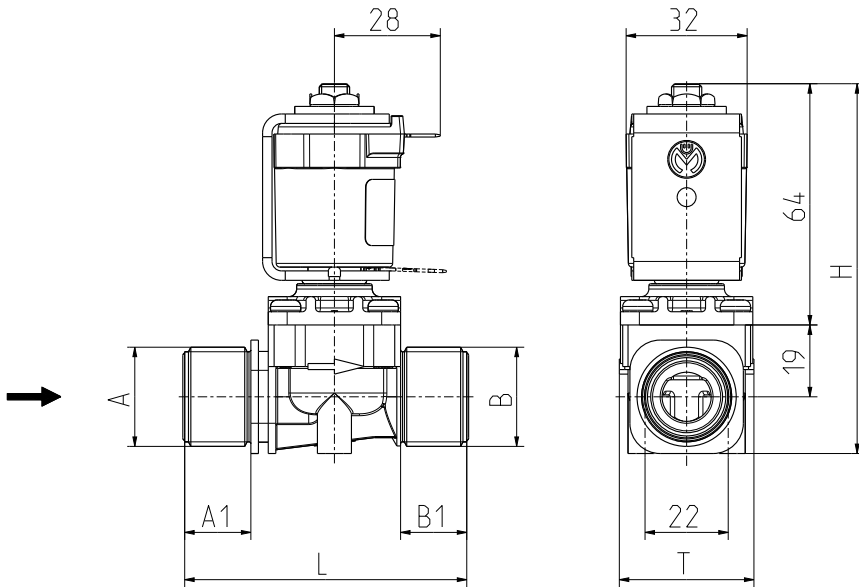
Characteristics

- Servo-controlled
- Normally closed (NC)
- Solenoid replaceable while medium circuit remains untouched
- Suitable for hot water up to 90 °C
- Similar hydraulic performance for AC or DC variants
- Optimized water hammer characteristic by low noise emission according to EN 60730
- Long term performance capability
- High operating safety through the use of high quality materials and 100% final testing of the products

Typical Performance Curve



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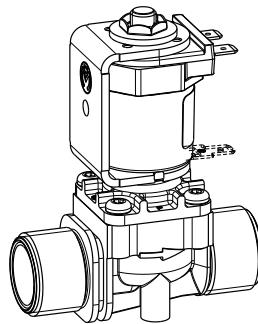


Technical Data

| | | |
|-------------------|---|-----------------------|
| Type | solenoid valve | |
| Construction | 2/2-way single chamber straight valve assisted lift | |
| Function | NC (normally closed) | |
| Fitting position | any, preferably with coil upwards | |
| Media | cold and heated potable water and physically and chemically similar media | |
| T-Medium | 5 - 90 | °C |
| T-Ambient | 5 - 70 | °C |
| DN | 10 | mm |
| p-Operating | 0 - 10 | bar |
| Cv-value | 24 | l/min |
| Flow regulator | on request | |
| Pressure surge | according to EN 60730 | |
| Coil type | MS 41, MS 42, MS 43 | |
| Nominal voltages | 24 | V DC |
| | 230 | V AC 50-60 Hz |
| | other voltages on request | |
| Voltage tolerance | +10% -15% | |
| Duty cycle | 100% | |
| Nominal power | 11 W | 15 VA (AC) |
| Protection Type | see coils | |
| Coil connections | plug socket according to EN 175301-803 (IP65), | |
| Insulation class | H | according to EN 60730 |
| Protection class | see Coils | according to EN 60730 |

Materials

| | |
|-----------------------|--|
| Valve body | PA 66 glass fibre reinforced PPE on request PPO on request |
| Plunger guide | stainless steel |
| Plunger and spring | stainless steel |
| Membrane and sealings | EPDM VMQ (on request) NBR (on request) |
| Coil coating | Epoxy resin |
| Filter (inlet) | stainless steel (in inlet) POM (on request) |



Options

Valve body without fixing groove



Valve body with fixing groove



The flange is not included in the delivery (see product information flange).

Coils

MS 41
(IP00)
Protection class II
Protection class I*



MS 42
(IP65)
Protection class II

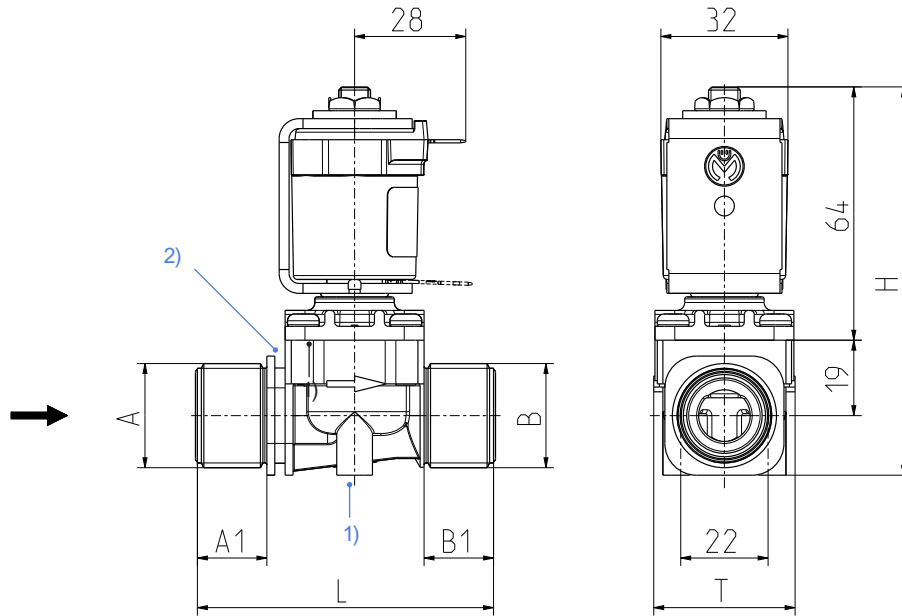


MS 43
(IP65)
(IPX7)
Protection class II



* on request with protective conductor contact

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- 1) Mounting option for tapping screw $\varnothing 4.2$ mm
- 2) Flange mount

Options

| Material | Inlet $\varnothing A$ | A1 [mm] | Fixing Groove | Outlet $\varnothing B$ | B1 [mm] | Length L [mm] | Height H [mm] | Depth T [mm] |
|------------------------------|--------------------------|------------|---------------|-----------------------------|------------|---------------------|---------------------|--------------------|
| PA 66 or PA 6/6 or PPO black | G 3/4 | 18 | yes | G 3/4 | 18 | 76 | 98 | 36 |
| PA 66 or PA 6/6 or PPO black | G 1/2 | 15 | yes | G 1/2 | 15 | 70 | 98 | 36 |
| PA 66 or PA 6/6 or PPO | G 3/8 | 13 | yes | G 3/8 | 13 | 66 | 98 | 36 |
| PA 66 or PA 6/6 | G 3/4 | 18 | yes | G 1/2 | 15 | 73 | 98 | 36 |
| PA 66 or PA 6/6 | G 3/4 | 18 | yes | G 3/8 | 13 | 71 | 98 | 36 |
| PA 66 | G 1/2 | 15 | yes | G 3/4 | 18 | 73 | 98 | 36 |
| PA 66 | G 1/2 | 15 | yes | G 3/8 | 13 | 68 | 98 | 36 |
| PA 66 | G 3/8 | 13 | yes | G 3/4 | 18 | 71 | 98 | 36 |
| PA 66 | G 3/8 | 13 | yes | G 1/2 | 15 | 68 | 98 | 36 |
| PA 66 or PA 6/6 | G 3/4 | 10 | no | G 3/4 | 10 | 55 | 98 | 36 |
| PPO or PA 66 | nozzle $\varnothing 12$ | 17 | yes | nozzle $\varnothing 12$ | 17 | 74 | 98 | 36 |
| PA 6/6 | G 3/8 | 13 | yes | nozzle $\varnothing 12$ | 17 | 74 | 98 | 36 |
| PA 66 | G 3/4 | 18 | yes | G 3/4 | 10 | 68 | 98 | 36 |
| PA 66 or PA 6/6 | G 3/4 | 14,5 | yes | G 3/4 | 14,5 | 69 | 98 | 36 |
| PA 66 | G 3/4 swivel nut | 10,5 | yes | G 3/4 | 18 | 87 | 98 | 36 |
| PA 66 | G 3/4 | 18 | yes | nozzle $\varnothing 15,0^*$ | 30 | 90 | 98 | 36 |
| PA 66 | 3/8" JG** | 10 | yes | 3/8" JG** | 10 | 60 | 98 | 36 |
| PA 66 | G 3/4 | 18 | yes | G 3/4 swivel nut | 10,5 | 87 | 98 | 36 |

* Compatible to modular fitting system, series 11.000 or for John Guest

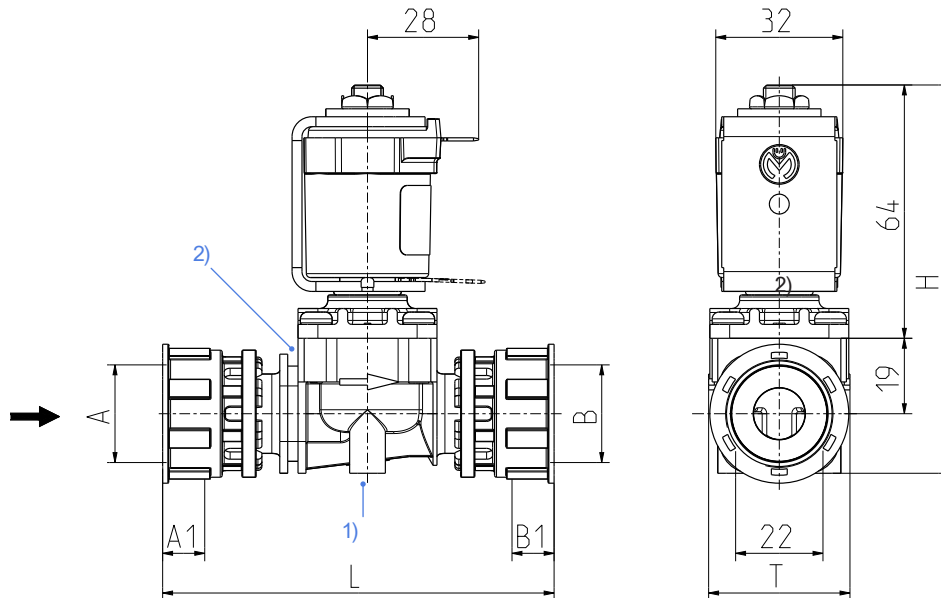
**John Guest cartridge in valve body

Other variants on request.



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Valve housing variants with swivel nut



- 1) Mounting option for tapping screw \varnothing 4.2 mm
2) Flange mount

Options

| Material | Inlet \varnothing A | A1 [mm] | Fixing Groove | Outlet \varnothing B | B1 [mm] | Length L [mm] | Height H [mm] | Depth T [mm] |
|----------|--------------------------|------------|------------------|---------------------------|------------|---------------------|---------------------|--------------------|
| PA 6/6 | G 3/4 swivel nut | 10,5 | yes | G 3/4 swivel nut | 10,5 | 99 | 98 | 36 |
| PA 6/6 | G 1/2 swivel nut | 11,5 | yes | G 1/2 swivel nut | 11,5 | 99 | 98 | 36 |

Other variants on request

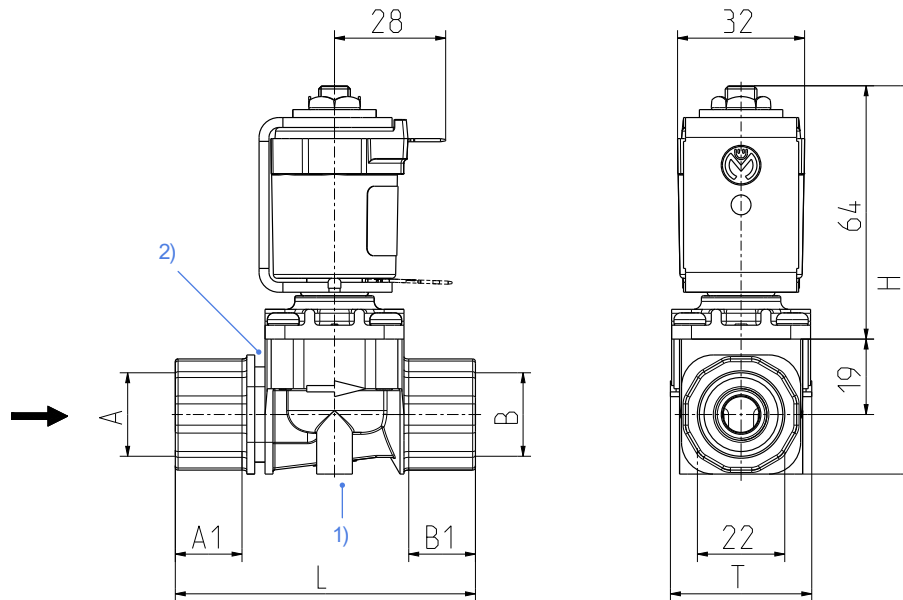
Assembly Instruction for Swivel Nuts

In order to avoid damage to the swivel nuts or leaks in the screw connections, please follow these assembly instructions.

- Place the swivel nut straight onto the thread of the male counterpart.
- Make sure that the metal ring is well seated in the area of the toothing.
- Tighten the swivel nut to a torque of 3 Nm.
- Check the installation for leaks.
- Repeat the leakage check at suitable intervals.
- Only use original seals and spare parts from A. u. K. Müller.

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Valve housing variants with female thread



- 1) Mounting option for tapping screw $\varnothing 4.2$ mm
- 2) Flange mount

Options

| Material | Inlet $\varnothing A$ | A1 [mm] | Fixing Groove | Outlet $\varnothing B$ | B1 [mm] | Length L [mm] | Height H [mm] | Depth T [mm] |
|---------------------------|--------------------------|------------|------------------|---------------------------|------------|---------------------|---------------------|--------------------|
| PA 6/6 | G 1/2 inside | 16 | Ja | G 1/2 inside | 16 | 76 | 98 | 36 |
| Other variants on request | | | | | | | | |

Pipe thread according to DIN EN ISO 228 - 1 with gasket

- Do not use additional sealing material such as hemp or Teflon tape.
- Note minimum thread length of 17 mm

